A
mericans have always been uncomfortable with nuclear weapons, often conflicted with how to balance claims about their contribution to security vs. the destruction that would come with their use. This was evident even before the first bomb was tested, when U.S. Secretary of War Henry Stimson told President Harry Truman that the atom bomb would be “the most terrible weapon ever known in human history” and “modern civilization might be completely destroyed.”

During the Cold War, Americans tended to embrace nuclear threats but also found the weapons and their destructive capabilities to be distasteful or even repugnant. This dissonance has continued into the post–Cold War era with a majority in favor of the elimination of nuclear weapons but skeptical of the prospects for abolition; in support of arms control but also of maintaining a strong U.S. deterrent; and worried that nuclear weapons are a threat to humanity but also in support of their use in specific contexts.

Attempts to resolve this tension surrounding nuclear weapons by seeing them as both terrible and necessary led to arguments that the United States was justified in maintaining a nuclear arsenal and making nuclear threats, but that nuclear weapons should only be used in self-defense, and that retaliation should be proportional and, as much as possible, should spare noncombatants. This was the solution offered by Joe Nye’s landmark 1986 book *Nuclear Ethics*, the Catholic Church and various other religious leaders, and some U.S. decision-makers.

Respect for proportionality and noncombatants has become part of the United States’ nuclear policy and strategy, although to date no president has embraced limiting nuclear weapons to only self-defense.

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*Ethics & International Affairs*, 37, no. 1 (2023), pp. 29–38.
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doi:10.1017/S0892679423000011
This fix for the nuclear dilemma acknowledged the destructive capabilities of nuclear weapons but relied on the strategy of deterrence to ensure they would never be used. Deterrence provided a rationale for why nuclear weapons were necessary, needed to be able to launch within minutes, and required periodic replacement and modernization. It excused as necessary the environmental contamination and humanitarian impacts of nuclear weapon development and testing. Deterrence also required the United States to develop the capabilities and plans to carry out nuclear war, all in the hope they would never be used.

What is increasingly understood and perhaps long suspected is that deterrence and its practice involve less intentionality and agency than is usually assumed. The past few years have seen many efforts to rethink deterrence by scholars and practitioners. The idea of deterrence has also been challenged in the international system by movements emphasizing the humanitarian impact of nuclear weapons and the Treaty on the Prohibition of Nuclear Weapons—all of which explicitly reject nuclear deterrence. In this essay, I offer three perspectives on nuclear deterrence, each of which calls into question one of its core assumptions. If deterrence is not fit for purpose, then nuclear ethics must be reexamined.

THE ILLUSION OF AGENCY

Deterrence, as usually described by U.S. military strategy and standard academic texts on national security, is “the threat that leaves something to chance.” As Thomas Schelling spelled out in *The Strategy of Conflict*, the destructive capabilities of nuclear weapons, combined with the possibility that escalation may bring even more catastrophic levels of violence, create credibility problems for threatened nuclear use. Schelling explains that “the key to these threats is that, though one may or may not carry them out if the threatened party fails to comply, the final decision is not altogether under the threatener’s control. The threat is not quite of the form ‘I may or may not, according as I choose,’ but has an element of, ‘I may or may not, and even I can’t be altogether sure.’”

The threat that leaves something to chance was the logical warrant that solved the credibility problem inherent in nuclear strategy once the United States and the Soviet Union each had enough nuclear weapons to destroy the other. The notion that decision-makers might be less than rational, not fully in control of the situation, or perched on a precipice that would quickly crumble beneath their feet made it possible for them to credibly threaten to use nuclear weapons. In other

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words, even though mutually assured destruction made it irrational to use nuclear weapons, things might still get out of control. Best, therefore, to avoid any confrontation between nuclear adversaries.

The history of the Cold War often credits this threat that left something to chance with the absence of direct war between the United States and the Soviet Union and the relative peace that characterized relations between the major powers. This logic has continued to dominate the nuclear policy discourse. The 2018 Nuclear Posture Review, for example, argues not only that U.S. nuclear capabilities have deterred both nuclear and nonnuclear aggression but also that deterrence is responsible for a significant decline in deaths due to war. More recent arguments credit nuclear weapons with deterring Putin from expanding his war against Ukraine to include attacks against military supply lines in NATO countries, and with deterring the United States from providing more direct support to the Ukrainian war effort. What these arguments have in common is that they assume and sometimes overtly state that nuclear war has been avoided precisely because the brinksmanship and irrationality necessary to make nuclear deterrence credible have been practiced skillfully enough. In other words, a causal relationship is assumed between how U.S., Soviet, and now Russian leaders have practiced deterrence and the absence of direct war between them.

This is not to argue that accidents have been overlooked or ignored. The Cuban Missile Crisis, frequently cited as the closest the superpowers came to nuclear war, has become a standard case study in crisis management. NATO’s 1983 Able Archer ’83 war game is acknowledged to have inadvertently frightened the Soviet Union enough that it put its nuclear forces on alert. And stories about false alarms due to equipment failures are accepted as a necessary consequence of the nuclear age. But routinely, the narratives about these problems suggest that deterrence fails “safe”—that is, the tendency is for cooler heads to prevail, technical safeguards to work, and for decision-makers to intentionally default to nonuse rather than launch. The implication for the practice of deterrence is that problems are few and far between, are the exceptions rather than the rule, and must be tolerated in the name of security.

The alternative is to assume that the accidents that were avoided and the misunderstandings and misperceptions that never resulted in nuclear use were coincidental. In other words, the deterrence system has so far failed safe not because of wise, rational, or strategic choices, but, as Benoît Pelopidas has argued, because of luck. Indeed, the more we learn about superpower behavior during the Cold War,
the more reason we have to conclude that human agency and control over the
practice of deterrence are either overstated or illusions. For example, we now
know that when Kennedy and his advisors threatened the Soviet leadership,
they did not understand that nuclear weapons in Cuba were already functional.
We also know that the Mark 39 hydrogen bombs accidentally dropped over
Goldsboro, North Carolina, in 1961 probably should have detonated. And we
now fully understand the gravity of what Stanislav Petrov meant when he said,
“They were lucky it was me on shift that night.” Otherwise, on September 26,
1983, another Soviet military officer would probably have picked up the phone
and started a nuclear war by telling his commanding officer that the United
States had launched five intercontinental ballistic missiles at the Soviet Union,
when in fact the warning system had generated a false alarm.

If deterrence is revised to include luck as a major component, the ethics of the
deterrence threat changes. As explained by Franklin Miller, “Deterrence is the
product of capability and will. This means the United States must have confidence
in its deterrent and potential adversaries must have respect for it. Critical to this is
the ability to communicate to potential enemy leaders that if America and its allies
are attacked with nuclear weapons or major nonnuclear strategic assets, the nation
has the ability, even in a worst-case scenario, to destroy what they hold most
dear.” Without assigning luck a role, deterrence either assumes away the fog
of war as well as human fallibility or assigns both only a minor role. Add in
luck and deterrence becomes the product of capability, will, the hope that your
adversary understands both, that you correctly calculate what they hold dear,
and that in a crisis you are lucky enough that no significant extenuating circum-
stances complicate this relationship. In other words, luck means that deterrence is
the threat that leaves some things to chance, and we are unlikely to know what
these things are in advance.

(IRM)ATIONAL ASSESSMENT

Another assumption behind deterrence is that decision-makers can calculate the
costs and benefits of their actions and convey this clearly to an adversary. The
threat that leaves something to chance is supposed to be robust precisely because
the destruction that would be caused in a nuclear war clearly outweighs any ben-
efits that could be derived from that war. Perfect rationality, however, was not
originally part of nuclear deterrence. As Bernard Brodie pointed out in his first

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writings on the subject, capability must be “sufficient to give the Soviet government much pause,” “intuition” plays a role, and “the rationality upon which deterrence must be based is ultimately frangible,” especially during crises. More recently, it was explained to me during a visit to Strategic Command that “deterrence is an art, not a science” and that the United States should not attempt to overthink targeting but just be prepared to “blow a bunch of shit up.”

But the ability of nuclear deterrence to tolerate likely imperfections in rational behavior has waned during the nuclear era. When Nuclear Ethics was originally published in 1986, it was responding to the U.S. government’s increasingly tight embrace of a strategy of nuclear war fighting—that is, the ability to control escalation and use an array of limited nuclear strikes in support of national objectives or in response to the failure to deter the Soviet Union. Fast-forward another twenty years and the United States was in the process of adopting a strategy that argues each adversary and strategic challenge must be met with its own portfolio of nuclear and conventional forces—so-called “tailored deterrence.”

Because both nuclear war–fighting and tailored deterrence rely on limited or graduated nuclear strikes—and, at least initially, the promise of less damage—they have less tolerance for an imperfect assessment of costs and benefits.

For example, as a deterrence strategy, mutual assured destruction uses the likelihood of annihilation to compensate for any misunderstandings in communication with Russian leaders or mistaken assessments of what they value. The difference between threatening to destroy 80 percent of the Russian population vs. 70 percent is irrelevant when both are existential threats to the Russian way of life. By contrast, a war-fighting strategy attempts to influence adversary behavior through limited—and thus assumed-to-be more tolerable—nuclear strikes backed by the threat of escalation to greater levels of destruction. But where is the dividing line that separates what will motivate an adversary to retaliate vs. be deterred? Tailored deterrence even further micromanages the connection between behavior and threats. It assumes, for example, that China and Russia are deterred by appreciably different things that can be translated into discrete threats and force packages. It also assumes that China and Russia each recognize the deterrent threat aimed at them, rather than believe they are the target of all U.S. nuclear weapons. In other words, as U.S. deterrent strategies have become more precise, they have become less tolerant of misinterpretation.

Additionally, insights from behavioral psychology and behavioral economics call into question the ability of leaders to evaluate deterrent threats. Bluntly,
humans are not great at making rational decisions, especially in times of crisis. People judge risks poorly and use contextual clues as heuristics to create shortcuts for making decisions, rather than reasoning their way through a situation. Such heuristics include assessing a situation according to something that is assumed to be similar (the representativeness heuristic) or something that comes easily to mind (the availability heuristic); choices conditioned by prior suggestions that are not related to the current situation (the anchoring heuristic); attributing actions to biases about a person rather than an assessment of the current situation (the fundamental attribution error); and exaggerated assumptions about control over outcomes (the illusion of control and/or excessive optimism). Of particular concern is the tendency for people to assess losses and gains irrationally. Based on experiments in the 1970s by economists Amos Tversky and Daniel Kahneman, now often referred to as prospect theory, the concern is that people are biased in favor of taking highly risky gambles to avoid losses in situations where rationality would suggest more cautious behavior would lead to better outcomes. In other words, a strategy of deterrence has to tolerate not just imperfections in rational security-making but also biases in reasoning about the costs and benefits of action or inaction.

Narratives about Necessity

The third assumption underlying deterrence theory is that it is somehow necessary for peace, despite its flaws. Deterrence is often credited with the great power peace of the Cold War and the necessity of deterrence remains enshrined in both the jargon of national security experts and the public vernacular. Evidence to the contrary, in the form of individual cases of deterrence failure, is explained away by what is known in the philosophy of science as “ad hoc auxiliary hypotheses”—arguments that provide an excuse for evidence that does not fit with the predictions of a beloved theory. For example, Putin’s February 2022 order to put nuclear weapons on alert was interpreted as a threat to use nuclear weapons if the United States and NATO interfered with his invasion of Ukraine. Some point out that the United States and NATO have not provided troops and thus Putin’s threat is an example of successful deterrence. But, in spite of his nuclear saber-rattling, the United States and NATO have intervened, providing increasingly sophisticated military assistance that has been of material benefit to the

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Ukrainian war effort. In other words, this interference in Russia’s invasion of Ukraine is a deterrence failure, not a success.

Assumptions about the necessity for nuclear deterrence are rooted in Thucydides’s dictum that “the strong do what they can and the weak suffer what they must” and enshrined in theories of realism that came to dominate U.S. thinking about security. Realism made it acceptable to threaten the use of nuclear weapons, even though their use might lead to destruction so severe it puts the entire world at risk. Nuclear weapons were a necessary evil in the anarchic system in which the United States was responsible for its own security. Without them, the United States would surely fall victim to Soviet aggression. The threat of apocalypse was rational, given the stakes. In other words, nuclear deterrence was necessary, not a choice.

But the realist theories that argue nuclear deterrence is necessary have always been challenged, mostly by disciplines other than political science and by scholars outside of the United States. Rather than simply a requirement derived from the material conditions of the international system, how states deal with risk can also be understood as a choice derived from history and culture. Realism is not an iron law of international life but rather a subjective belief system that in turn constructs the identities and interests of states. The rational choice theory at the core of deterrence is not so much a science as a social construct to defend U.S. post–World War II foreign and economic policy.

The point here is not to rehash arguments about international relations theory, but to illustrate how those debates call into question the idea that deterrence with nuclear weapons is a requirement as opposed to a choice. Its persistence is not a function of its demonstrated validity but rather of learned behavior that has been passed on because it is embedded in institutions and replicated by their practitioners. As Amir Lupovici explains, this does not mean that deterrence is not rational but that it is “not the only rational strategy that can guarantee a state’s survival.”

Deterrence and Nuclear Ethics

Once free from office, General Lee Butler, a former head of Strategic Command—the military command in charge of the nuclear arsenal—described deterrence as a “false god” that was “premised on a litany of unwarranted assumptions, unproveable assertions and logical contradictions. It suspended rational thinking about the
ultimate aim of national security: to ensure the survival of the nation.”

Deterrence advocates would argue that these flaws are needed to make the theory whole and serve to make deterrence credible. Without this “rationality of the irrational,” as Herman Kahn phrased it, a state’s threat to essentially commit suicide would not be taken seriously.

If there is to be an ethics for the threat to use nuclear weapons to secure the state, its allies, and their interests, that ethical construct should be based on realistic assumptions about human behavior and rationality. Deterrence, instead, relies as least partially on luck. It is at best a relationship based on the hope that each side understands what the other values; can interpret the actions of others and correctly convey its own intent; and that other events, goals, and extraneous matters do not cloud judgement. Deterrence also assumes away the decision-making heuristics and other shortcuts that characterize human behavior. We hope that decision-makers will be rational even though we have a surfeit of evidence to the contrary, especially with respect to crises.

If, in spite of these flaws, deterrence remains a nuclear strategy, in a democracy this should be a choice embraced by society and based on its informed consent. If avoiding nuclear annihilation is a function partially of luck and idealized human behavior, people should agree to this gamble. But the policy-making and practices of deterrence have long been exclusionary. It is well established that the president and members of Congress are not privy to nuclear-targeting plans and indeed are denied full access to them. The bureaucracy that guards and governs nuclear weapons policy, planning, and use discourages debate, hinders democratic oversight, and makes policy reform difficult.

This at least partially explains why deterrence is never judged against other alternatives. Instead, it is refined. For example, Strategic Command is currently “furiously rewriting” deterrence because of nuclear modernization in China rather than questioning the value of the U.S. nuclear arsenal, given the evidence that China and Russia seem not to have been deterred from challenging U.S. interests.

Rather than an ongoing deliberation about national security and how best to achieve it under changing circumstances, deterrence has become an institutional behavior. It is taught, learned, passed along, and implemented as strategic necessity. Ethics, however, requires if not a search for alternatives, then at least an informed examination of current practice.
For the role of the academy in this replication, see Ken Booth, “Security and Self: Reflections of a Fallen Realist,” in Keith Krause and Michael C. Williams, eds., Critical Security Studies: Concepts and Strategies (Minneapolis: University of Minnesota Press, 1997), pp. 83–120. For a similar argument about


Abstract: Any threat to use nuclear weapons inherently carries the possibility of escalation to a level such that both parties in a conflict, and likely many others, would be destroyed. Yet nuclear weapons are also seen as necessary for securing the very things that would be destroyed if the weapons were ever used. The fix for this nuclear dilemma relies on the strategy of deterrence. Deterrence provides a rationale for why nuclear weapons are necessary, even though they may seem dangerous. But the practice of deterrence involves less intentionality and agency than is usually assumed. The success of deterrence relies partially on luck as well as unrealistic assumptions about human behavior. Rather than a strategic necessity, deterrence may be an institutionalized behavior, accepted because it has always been practiced rather than because it makes sense. Assessing the ethics of deterrence and nuclear weapons requires engaging with these issues.

Keywords: nuclear weapons, deterrence, rationality, heuristics, strategy, Cold War, Joseph S. Nye Jr.